



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/706,667

11/06/2000

Arnold Karel Jansen Van Doorn

PHN-17.714

8978

24737

7590

04/21/2005

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

PAYNE, DAVID C

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/706,667	JANSEN VAN DOORN, ARNOLD KAREL	
	<b>Examiner</b>	<b>Art Unit</b>	
	David C. Payne	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2004.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

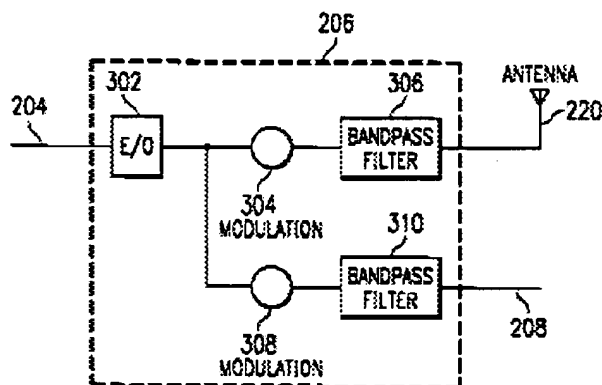
\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION*****Response to Arguments***

1. Applicant's arguments filed 24 August 2004 have been fully considered but they are not persuasive.
2. The Examiner would like to submit that there are two potential filter locations suggested by the modified invention of Chen in view of Williams. The filters will be described with respect to Figure 3, which better illustrates the placement of filters in the Chen invention. First the Chen reference shows filters (306) and (310) which are adaptive filters placed between potential noise sources (220 and 208) (or Figure 7 which shows more sources) and at least one optical transmitter (302).

**FIG. 3**

The description of Figure 3 found in Chen (col./lines: 5/30-55) is repeated herein below with emphasis.

Art Unit: 2633

FIG. 3 illustrates the circuitry necessary at the fiber node 206 to transit the upstream and antenna signals to the headend via optical fiber 204. The circuitry necessary at the fiber node for transmitting downstream signals is omitted for clarity. **The antenna 220 is coupled to band pass filter 306 which filters out signals that are outside the band of interest for canceling the noise on the upstream signals.** The output of band pass filter 306 is then coupled to modulator 304 which modulates the information on a suitable carrier so that it may be separately transmitted along the fiber optic cable 204 without interfering with the information provided by the upstream signals or interfering with the downstream information. The output of modulator 304 is passed to an **electrical/optical interface 302** in which the signal is converted to an optical signal for transmission along the fiber optic cable 304 [sic]. In systems in which the fiber optic cable 304 [sic] is omitted, the modulated signal from modulator 304 could directly be transmitted via a coaxial link to the headend 202. **The upstream signals received via coaxial cable 208 are coupled to band pass filter 310 which eliminates signals outside the pass band for upstream signals. The output of band pass filter 310 is passed to modulator 308 which modulates the signal on a suitable carrier for transmission along the fiber optic cable 204 to the headend.** The output of modulator 308 is likewise coupled to electrical/optical interface 302 for transmission along the optical fiber 204.

The Examiner submits that while both filters (306 and 310) filter noise from potential sources from the at least one optical transmitter (either 302 or the transmitter in the headend not shown along path 204) bandpass filter (310) in particular shields the optical transmitters (either 302 or the transmitter in the headend not shown along path 204) from upstream noise along path 208 as discussed above. Furthermore, the Williams reference also shows the placement of filters (116) between a downstream transmitter (100) and potential upstream noise sources (152). Finally, impulse noise and clipping of transmitters is taught in the references as discussed below is common in optical systems and certainly obviated by the placement of filters in the cited references.

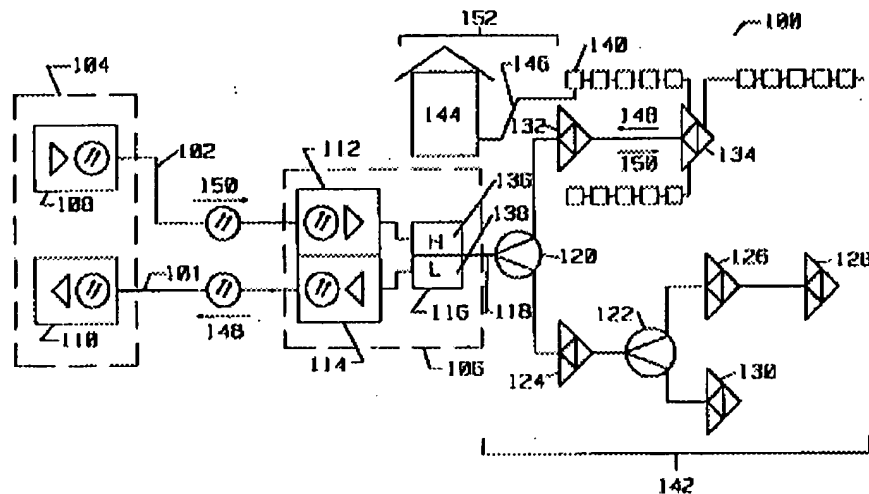


Fig. 1

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen US 5,915,205 A (hereinafter Chen) in view of Williams US 6,151,559 A (hereinafter Williams).

Regarding claim 1, Chen disclosed

Communication system, comprising: a network (Figure 2), a headend and that may be

Art Unit: 2633

subjected to potential noise sources (see col./line: 5/7-10), wherein the communication system includes an adaptive filter (see col./line: 5/15-18) coupled between the potential noise sources (e.g., 214 of Figure 2) and a headend (see col./line: 5/7-10), which filter has a cut-off frequency (see col./line: 2/52-55, 5/47-50), dependent on the noise frequency (see col./line: 3/10-15), wherein the adaptive filter blocks detected noise from passing upstream through the communication system (see col./line: 2/40-45) and enables substantially undisturbed upstream communication above the cut-off frequency of the filter (see col./line: 2/52-55).

Chen does not illustrate a transmitter in the headend (202 of Figure 2) but does refer to this component which is necessary for transmitting signals downstream as well known in the art (see col./line: 5/10-12) which are subject to upstream noise (see col./line: 5/7-10). It is noted that an optical transmitter is inherent an optical headend as shown in Chen.

Chen does not disclose that the noise is impulse noise, that the filter prevents clipping of the transmitter nor a noise detector.

Williams disclose a system for characterizing undesirable noise in an optical cable system (Figure 1). Williams further disclosed a filter (116 of Figure 1) in front of an optical transmitter (108 of Figure 1). This filter being necessary to protect a transmitter from impairments (col./line: 4/2-13) from the test scenario of impulse noise (see e.g., col./line: 10/67, 11/1) that demonstrates clipping at the transmitter (see e.g., col./line: 10/40-45). Williams further disclosed a noise detector (or trigger circuit col./line: 6/35-45).

It would have been obvious to one of ordinary skill in the art at the time of invention that the adaptive filter of Chen (see col./line: 5/15-18) would be used to filter out upstream impulse noise that could cause clipping in a downstream transmitter as

Art Unit: 2633

demonstrated by Williams. One finds motivation to conclude this since Williams disclosed tests for this type of noise which is the "... most common form of return band impairment ..." which is "... powerful enough to distort, or drive return active devices into a non-linear mode ..." (see William col./line: 2/1-14). Furthermore it would have been obvious to one of ordinary skill in the art at the time of invention to use a noise detector or (trigger circuit see Williams col./line: 6/35-45) to detect and filter impulse noise in an adaptive system such as Chen's. One finds motivation to use the noise detector (trigger) in Williams "Thus it is possible to estimate the amount of time the baseband noise trajectory 312 spends outside of the threshold region 332 by allowing it to spin, and detecting the threshold crossing points, 406, 408, 410 and 412 with a trigger circuit that inputs to a totaling counter (6/39-45)."

Regarding claims 3 and 7,

Chen disclosed the aforementioned invention but does not describe his adaptive filter in terms of a high-pass and low-pass filter.

Williams disclosed wherein this filter (116 of Figure 1, col./line: 4/25-30) is arranged in terms of a high pass filter (136 of Figure 1) and/or a low pass filter (138 of Figure 1). It would have been obvious to one of ordinary skill in the art at the time of invention to arrange the Chen filters in this fashion in order to filter out the noise burst that typically occur between 5 and 15 Mhz as disclosed in Williams (col./line: 2/1-5). Furthermore, the high-pass and low-pass filters operate to pass signals in the downstream ranges 54 to 550 MHz (see Williams col./line: 1/32-35) and the upstream ranges 5 to 30 MHz (Williams col./line: 1/49-50).

Art Unit: 2633

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen US005915205A (Chen) and Williams US 6,151,559 A (hereinafter Williams) as applied to claim 1 above, and further in view of Izakson et al. US 4,207,543 (Izakson).

Re claim 5

The Chen and Williams invention as taught does not disclose a communication system wherein the communication system comprises a threshold detector and a controllable switch having a control input coupled to the threshold detector. Izakson (Figure 4, e.g., col./line: 6/28-55) disclosed an amplitude detector (13) that detects the output of a threshold circuit (10). It would have been obvious to one of ordinary skill in the art at the time of invention to use a threshold detector in the Chen and Williams invention for the benefit of detecting/adapting a signal detection in the presence of a changing noise environment

Re claim 6

Chen disclosed a communication system (Figure 4) wherein in the communication system comprises a summing device (430) for summing at least one filtered version of an impulse noise containing RF signal.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



Art Unit: 2633

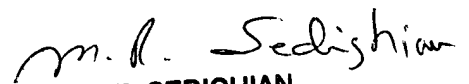
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

  
M. R. SEDIGHIAN  
PRIMARY EXAMINER